

Claims

1. A rotating instrument comprising a shaft (1) and a working member (2) which is secured to the shaft or can detachably be secured thereto, wherein at least part of the working member (2) is made from a ceramic material, characterized in that the ceramic part of the working member (2) has a surface roughness of 0.5 μm to 6 μm .
2. The instrument according to claim 1, characterized in that the ceramic part of the working member (2) has a surface roughness of 1 μm to 2 μm .
3. The instrument according to claim 1 or 2, characterized in that all geometrically created form transitions of the ceramic part of the working member (2) have at least radii of 0.01 mm to 5 mm.
4. The instrument according to any one of claims 1 to 3, characterized in that all geometrically created form transitions of the ceramic part of the working member (2) have at least radii of 0.5 mm.
5. The instrument according to any one of claims 1 to 4, characterized in that the working member (2) is provided with a core reinforcement created by reducing the depth of grooves or cuts from the free end to the shaft of the working member (2).
6. The instrument according to claim 5, characterized in that the core reinforcement has a substantially conical basic shape.
7. The instrument according to claim 5 or 6, characterized in that the core diameter of 0.25° to 3° increases towards the shaft.
8. The instrument according to any one of claims 5 to 7, characterized in that the core diameter increases by 1° towards the shaft.

9. The instrument according to any one of claims 1 to 8, characterized in that the surface of the ceramic member of the working member (2) is microhardened.
10. The instrument according to any one of claims 1 to 9, characterized in that the surface of the ceramic part of the working member (2) is microhardened by blasting the surface.
11. The instrument according to any one of claims 1 to 10, characterized in that the surface of the ceramic part of the working member (2) is provided with a hard layer.
12. The instrument according to any one of claims 1 to 11, characterized in that the surface of the ceramic part of the working member (2) has at least a depth mark.
13. The instrument according to claim 12, characterized in that the depth mark has a surface roughness of 1 μm to 10 μm .
14. The instrument according to any one of claims 12 or 13, characterized in that the depth mark has a surface roughness of 2 μm to 4 μm .
15. The instrument according to any one of claims 12 to 14, characterized in that the depth mark is a laser mark.
16. The instrument according to any one of claims 12 to 14, characterized in that the depth mark comprises cut-in grooves.
17. The instrument according to any one of claims 1 to 16, characterized in that the working member (2) and the shaft (1) are made from a ceramic material.
18. The instrument according to any one of claims 1 to 17, characterized in that the working member (2) has a metallic carrier (3) and at least one layer (4) that is provided thereon and consists of the ceramic material.

19. The instrument according to claim 18, characterized in that the layer (4) of the ceramic material is connected to the carrier (3) by means of an adhesive.
20. The instrument according to any one of claims 1 to 19, characterized in that the surface of the ceramic material is ground.
21. The instrument according to any one of claims 1 to 20, characterized in that the ceramic material is provided with cutting edges and/or a tothing.
22. The instrument according to any one of claims 1 to 21, characterized in that the ceramic material comprises aluminum oxide and/or zirconium oxide.
23. The instrument according to any one of claims 1 to 22, characterized in that the instrument is designed as a dental instrument.
24. The instrument according to any one of claims 1 to 22, characterized in that said instrument is designed as a drill.
25. The instrument according to any one of claims 1 to 24, characterized in that at least one coolant channel is formed at least in the working member (2) of the instrument.